No.606a PRICE 40 CENTS

ROBERT L. EBERHARDT

SAN DIEGO BAY

CALIFORNIA

Scale 1/20,000

1880

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Price 40 cents.

Authorities.

The Hydrography, changes in shore-line and new wharves on the north side of the bay between La Playa and New San Diego were surveyed, by Lieut. Commander G.W. Coffin, U.S.N., Assistant, in 1878.
The hydrography of the bay south of Las Choyas Creek and on the outside east of the Zuninga Shoal, and west of Pt. Loma, and the remaining shore-line are from the surveys of ..... 1852 & '56
The Triangulation was executed by R.D. Cutts and G. Davidson, Assistants in ..... 1851 & '71
The Astronomical observations were made by G. Davidson, Assistant, in ..... 1851 & '71

Tides.

The times and heights of the tides can be computed approximately by the following table.
The average time of the tides after either of the moon's meridian passages is for high waters 9h 42m and for low waters 15h 43m, and the corresponding average height is for high waters 4.8 ft. and for low waters 0.8 ft. above the plane of reference.

Moon's Upper Meridian Passage					
Moon's Declination	High Water Interval	High Water Height	Low Water Interval	Low Water Height	Moon's Declination
Zero, going N.	9h 49m	5.2 ft.	15h 58m	0.9 ft.	Zero, going S.
Mid. N. increasing	9 15	5.6 "	6 20	0.2 "	Mid. S. increasing
Greatest N.	9 00	5.7 "	6 29	0.4 "	Greatest S.
Mid. N. decreasing	9 04	5.4 "	6 22	0.3 "	Mid. S. decreasing
Zero, going S.	9 22	4.6 "	5 37	0.4 "	Zero, going N.
Mid. S. increasing	9 58	3.8 "	5 04	1.5 "	Mid. N. increasing
Greatest S.	10 40	3.7 "	5 05	2.2 "	Greatest N.
Mid. S. decreasing	10 24	4.3 "	5 34	1.9 "	Mid. N. decreasing
Moon's Lower Meridian Passage					

The interval is to be added to the time of the moon's meridian passage to give the time of high or low water. The time of the moon's upper meridian passage is found, from the Almanac, and the time of its lower meridian passage is the middle between two successive upper passages. The heights are given in feet and tenths, and show the rise above the adopted plane of reference, which is the average of the daily lower low waters and 2.8 feet below the mean sea-level.
In computing tides following the moon's upper meridian passage, take the declination from the left-hand column, but in computing tides following the moon's lower meridian passage, take the declination from the right-hand column.
At new or full moon, the high waters are 0.7 feet higher than the table gives, and the low waters 0.6 feet lower, but at the first and last quarters the high waters are 0.7 feet lower than the table gives, and the low waters 0.6 feet higher.

Buoys.

P.S. Black and White perpendicular stripes—Channel Buoy

Soundings.

The Soundings are expressed in feet and show the depth at the mean of the lowest low waters of each 24 hours.
..... limit of low water ..... limit of 6 feet ..... limit of 18 feet

Abbreviations.

G. stands for	*Gravel.*	*bk. stands for*	*black.*	*brk stands for*	*broken.*
M. " "	*Mud.*	*br.* " "	*brown.*	*fne.* " "	*fine.*
S. " "	*Sand.*	*dk.* " "	*dark.*	*hrd.* " "	*hard.*
Sh. " "	*Shells.*	*gy.* " "	*grey.*	*rky.* " "	*rocky.*
Sp. " "	*Specks.*	*wh.* " "	*white.*	*sft.* " "	*soft.*
		yl. " "	*yellow.*	*stk.* " "	*sticky.*

Sailing Directions.

Point Loma and the Coronados Islands form good landmarks for the entrance to the Bay. The Kelp also, which extends from False Bay along the land to and 3 miles beyond Pt. Loma, will serve as a good guide in thick weather. Vessels in entering the port may pass through the Kelp keeping at least ½ mile to the Southward of the Point until clear of the eastern edge of the Kelp, when steer N. by E. ½ East, till up with Pt. Loma, (the bar having been crossed where there is 21 feet at mean low water) and having, say half of the village on La Playa open past Ballast Point, haul up and steer in that direction, N.W. by N. ½ North, to the anchorage.
In beating while standing to the Eastward, do not approach the Zuninga Shoal too closely as it is very abrupt, but to the Westward, where the water shoals very gradually, the lead will be a sufficient guide. Half way between Ballast Point and the village there is shoal water (16 to 17 feet at mean of lower low tides) on either side, making the Channel quite narrow at that point. Beyond La Playa, the Channel is clearly marked at low water and its limits are well defined by beacons.
Deep draught vessels will find a good channel by hauling close around Ballast Point, steering W.N.W. for ¾ mile (or until beacon, No 1 bear N.E. ½ E.) then steering N.N.W. for ¾ mile, then N.N.E. until abreast the village, after which, the Channel is clearly defined by the beacons.
Bound into San Diego from the Northward, care must be taken not to mistake False Pt. for Pt. Loma, as they resemble each other; particularly when the weather is hazy. There is nothing more than a boat channel at the entrance of False Bay, and that is impracticable except in very smooth weather.

Statute Miles. 1 ½ 1 ½ 0 1

Nautical Miles 1 ½ 1 ½ 0 1

Kilometers 1 0.5 0 1 2

Bar Channel.

The range of the channel buoys will carry you clear with 17 feet at mean low water. To carry the best water over the bar (21 feet at mean low water) leave the second (P.S.) channel buoy to the westward, not over 50 fathoms, following the sailing line shown on the chart.

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